

## **APPENDIX A**

## FIELD INVESTIGATION

Our field investigations were performed on July 1, July 2, and July 8, 2002 and more recently on February 22, 2006 and April 27, 2006. Field studies consisted of a site reconnaissance and field mapping, excavation of 10 small diameter borings and 22 exploratory backhoe trenches, 13 seismic refraction traverses and 6 "air-track" borings. Small diameter borings were advanced using a CME 55 and 75 truck mounted drill rig equipped with 8-inch diameter hollow stem augers. During drilling, relatively undisturbed soil samples were obtained by driving a 3-inch, O.D., split-tube sampler into the "undisturbed" soil mass. The sampler was driven with blows from a 140-pound hammer falling a distance of 30 inches. Standard Penetration tests were also performed during drilling. Trenches were excavated using a tire John Deere 310 backhoe equipped with 24-inch wide bucket. During drilling and trenching, bulk samples were obtained. Seismic refraction traverses were performed using an EG&G Geometrics 1225-model, 12-channel seismograph unit. Air-track borings were performed using an EG&G Geometrics 1225-model, 12-channel seismograph unit. Air-track borings were performed using an ECM-370 track mounted air percussion drill rig equipped with a 4-inch-diameter bit.

Soil conditions encountered in borings and trench excavations were visually examined, classified and logged in general accordance with the American Society for Testing and Materials (ASTM) practice for Description and Identification of Soils (Visual-Manual Procedure D2488). Logs of exploratory excavations are contained herein as Figures A-1 through A-36. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. "Air-track" borings are contained as Figures A-1 through A-6 and titled Meadowood Water Reservoirs. The approximate locations of the exploratory excavations are shown on the Geologic Maps (Figure 2, map pocket).

Project No. 06931-42-01 November 20, 2006

PROJEC	T NO.	06931	-42	-01		-		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDMATER	SOIL CLASS (USCS)	BORING B 1  ELEV. (MSL.) 260 DATE COMPLETED 7/8/02  EQUIPMENT 8" HOLLOW STEM AUGER	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 0 -					MATERIAL DESCRIPTION			
- 2 -				SM	TOPSOIL  Loose, dry, dark brown, Silty, fine to medium SAND; plowed field soil	_		
- - 4 -					TERRACE DEPOSIT  Very dense, dry to humid, medium reddish-brown, Silty coarse SAND; massive	-		
	B1-1			SM		27/6"	118.2	8.2
- 6 - - 8 -				SP		_		
					Dense, damp, medium olive brown, micaceous SILT	_		
- 10 -	B1-2			ML	, <sub>F</sub> ,	38	91.3	30.4
- 12 -					-Becomes silty fine sand (transitional), some gravel in lower part	_		
- 14 -			¥		-Groundwater			
- 16 - - 16 - 	B1-3			SW	Medium dense, light to medium brown, fine to coarse SAND	24		
<u> </u>						-		
- 20 -  - 22 -	B1-4			ML	Medium dense, very moist, olive brown, micaceous SILT	27		
- 24 -						- 1		
- 26 -	B1-5			SP	Medium dense, saturated, medium SAND (Sampling unsuccessful)	28	Annual Control of the	
- 28 - 				ML				W. W
Figure	e A-1,	Log	of	Borin	g B 1			PF
	LE SYM			<del></del> -		/E SAMPLE	(UND I STU	

▼ ... WATER TABLE OR SEEPAGE

 $\boxtimes \dots$  disturbed or bag sample

PROJEC	CT NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B 1  ELEV. (MSL.) 260 DATE COMPLETED 7/8/02  EQUIPMENT 8" HOLLOW STEM AUGER	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 30 -		<u> </u>			MATERIAL DESCRIPTION			
32 -	B1-6				Medium dense, very moist to saturated, micaceous SILT, some very fine sand	20		
34 -	B1-7			ML				
- 38 - 						_		
- 40 -	B1-8					22		•
- 42 - - 44 -					Medium dense, saturated, medium brown, Sandy, micaceous SILT; with very fine sand, and approximately 2" thick calcareous layer (ancient durapan)	-		
- 46 - - 4	B1-9		The second secon	ML		27		
- 48 -			and the same of th		Pacamas yary maist (not actumeted)		, chromodylasia	
- 50 - 	B1-10		PARTICIPATION OF THE PROPERTY OF THE PARTICIPATION		-Becomes very moist (not saturated)	25		
- 52 -  - 54 -						_		
- 56 <u>-</u>	B1-11		S	M-ML	Medium dense to dense, very moist, medium brown, very Silty, very fine SAND to Sandy SILT	30		***************************************
- 58 -						-		
Figure	A-2, I	og o	f]	Boring	g B 1	ŀ		PF
SAMD	I E SVMB	OI 8		] sam	PLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIV	E SAMPLE (	UNDISTUR	

Y ... WATER TABLE OR SEEPAGE

 $oximes\ldots$  disturbed or bag sample  $oximes\ldots$  chunk sample

PROJEC	T NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B 1  ELEV. (MSL.) 260 DATE COMPLETED 7/8/02  EQUIPMENT 8" HOLLOW STEM AUGER	PENETRATION RESISTANCE (BLOWS/FI.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION	1		- 0
- 60 - 	B1-12			ML	Dense, moist to very moist, medium red-brown to brown, Sandy SILT	42		
	A-3 I				BORING TERMINATED AT 61.5 FEET Groundwater at ~14 feet			
'iourno	A 2 T	000	T T	0	- D 1			

SAMPLE SYMBOLS

	GY Treb	3		BORING B 2					
DEPTH			HAT	SOIL	BORING B 2	NE NE NE	}Li~	Sign (S	
IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	CLASS (USCS)	ELEV. (MSL.) 260 DATE COMPLETED 7/8/02	STAN US/F	DENS C.F.	STUR	
			GRC	(,	EQUIPMENT 8" HOLLOW STEM AUGER	PENETRI RESIST (BLOWS.	ORY (P.	MOISTURE CONTENT (%)	
				<del></del>	MATERIAL DESCRIPTION	110		- 3	
0 -		1	$\Box$		ALLUVIUM				
2 -					Stiff, moist, dark gray-olive, Silty CLAY to very Clayey SILT	_			
				CL-ML	· ·				
<u> </u>								The state of the s	
- 6 -	B2-1					13	86.1	31.7	
-						-			
8 -					CoA communicated to the control of t				
- 10					Soft, very moist, dark gray-olive, Silty CLAY to very Clayey SILT	-			
- 10 -	B2-2					3	81.8	40.3	
- 12 -				77 1 67					
-			lacksquare	CL-ML		_			
- 14 -			=		-Groundwater at 13.5 feet	_			
	B2-3					3	81.4	39.9	
- 16 -									
- 18 -									
- 20 -	B2-4		S	M-ML	Loose, very moist to wet, medium dark brown, very Silty fine SAND, micaceous	- 6	100.4	25.5	
_	<i>D</i> 2 .				Sity fine SAND, infeaceous	- 0	100.4	25.5	
- 22 -						-			
24					Loose to medium dense, saturated, medium brown,			**************************************	
	DO 6				medium SAND				
- 26 -	B2-5		3	SP-SM		_ 10			
_						-			
- 28 -						-			
						-			
Figure	e A-4, I	og c	of ]	Borin	g B 2			PF	
SAMP	LE SYMB	OLS		] sam	APLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIV	E SAMPLE	(UND I STU	IRBED)	
			8	3 Dis	STURBED OR BAG SAMPLE CHUNK SAMPLE	D TADIE 0	B 655040		

06931-42-01

PROJEC	T NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B 2  ELEV. (MSL.) 260 DATE COMPLETED 7/8/02  EQUIPMENT 8" HOLLOW STEM AUGER	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION	<u>IL</u> 0	<u></u>	- 0
- 30 -	B2-6	<u> </u>			-Sharp deposition-contact	35	A	ļ
- 32 - 				CL-SC	TERRACE DEPOSIT Very stiff, moist, dark reddish-brown, very Sandy CLAY			
- 34 -					-Some gravel	_		
- 36 -	B2-7			SM-ML	Dense, very moist to wet, medium brown, very Silty fine SAND to micaceous Sandy SILT	66		
- - 38 -	B2-8					27		
					BORING TERMINATED AT 38.5 FEET			
Figure	A-5, I	708 U	of	Boring	B 2			
	LE SYMB		E		PLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIVE	SAMPLE (	(UND I STU	PF RBED)

▼ ... WATER TABLE OR SEEPAGE

□ ... DISTURBED OR BAG SAMPLE

PROJEC	T NO.	06931	<u>-42</u>	:-01				
DEPTH IN FEET	SAMPLE NO.	ГІТНОГОСУ	GROUNDWATER	SOIL CLASS (USCS)	BORING B 3  ELEV. (MSL.) 287 DATE COMPLETED 7/8/02  EQUIPMENT 8" HOLLOW STEM AUGER	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 0 -		1-, -, -,	$\perp$		MATERIAL DESCRIPTION			
2 -					ALLUVIUM Loose, moist, dark brown, Silty, fine to medium SAND	_		
- 4 - 6 -	B3-1			SM		_ 3	112.4	17.7
- 8 - - 8 -						_		
- 10 -	B3-2		_			7	120.9	17.0
- 12 -  - 14 -		a	=		-Groundwater at 12 feet			Printer and the second second second
- 16 - - 10	B3-3	9 9 9		SM	Medium dense, saturated, dark brown, Gravelly, Silty, medium to coarse SAND	22		
- 18 -		10-1-0				_		
- 20 - - 22 -	В3-4		1,	SC-CL	TERRACE DEPOSIT Dense, moist, dark reddish-brown, very Clayey, medium to coarse SAND, massive	- 46 -		
- 24 - 26 -	B3-5		THE PROPERTY OF THE PROPERTY O			- - - 37		
- 20		<u> </u>			BORING TERMINATED AT 26.5 FEET			
Figure	A-6, I	Log o	of ]	Boring	g B 3			PF
SAMPI	LE SYMB	3OLS		] sam	APLING UNSUCCESSFUL $lackbox{f L}$ STANDARD PENETRATION TEST $lackbox{f L}$ DRIVE	E SAMPLE	(UND I STUP	RBED)

Y ... WATER TABLE OR SEEPAGE

◯ ... DISTURBED OR BAG SAMPLE

PROJEC	T NO.	06931	-42	-01		_		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B 4  ELEV. (MSL.) 326 DATE COMPLETED 7/8/02  EQUIPMENT 8" HOLLOW STEM AUGER	PENETRATION RESISTANCE (BLOWS/FI.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION	2.50		Ö
- 2 -					ALLUVIUM Loose, moist, dark brown, Silty, fine to medium SAND, porous			
- 4 - 6 - 	B4-1 B4-2			SM	-Becomes medium dense, damp	_ _ _ 19 _	114.1	5.6
- 8 - - 10 - - 12 -	B4-3					  13 	111.2	6.0
- 14 - - 16 - 	B4-4					  17 		
- 18 - - 20 - - 22 - 	B4-5		*	SC	-Groundwater at 18 feet Medium dense, saturated, medium dark brown, Gravelly, Clayey, medium to coarse SAND	24		
- 24 -	B4-6 I	+ + +			SAN MARCOS GABBRO Very weathered, damp to moist, yellowish-brown-olive, strong GABBRO -Excavates to a silty, very coarse sand BORING TERMINATED AT 25.5 FEET	36/7"		
Figure	A-7, I	ωσ n	of 1	Borine	or R 4			
	LE SYMBO				PLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIVE	= SAMDIE	/IIND I CTU	PF

Y ... WATER TABLE OR SEEPAGE

◯ ... DISTURBED OR BAG SAMPLE

PROJEC	CT NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B 5  ELEV. (MSL.) 264 DATE COMPLETED 7/8/02  EQUIPMENT 8" HOLLOW STEM AUGER	PENETRATION RESISTANCE (BLOWS/FI.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 0 -					MATERIAL DESCRIPTION			
2 -					ALLUVIUM Loose to medium dense, dry, dark brown, Silty, fine to medium SAND; porous, but with trace clay			
- 4 -  - 6 -	B5-1			SM		27		6.8
8 -					TERRACE DEPOSIT			
12 -	B5-2				Medium dense, damp to moist, dark reddish-brown, Clayey, fine to medium SAND, with some silt, massive	27		
- 14 - 16 - - 18 -	B5-3		<b>Y</b>	SC	-Groundwater (possible artesian; rise from 21' to 14' after boring completion)	36	118.6	14.9
20 -			<del></del>		-Becomes very moist to wet			
- 22 -  - 24 -  - 26 -	B5-4			SM	Loose to medium dense, wet to saturated, medium brown, Silty, fine to medium SAND			
- 28 - - 28 -			-					
rigure	e A-8, 1	Log	OI .	Borin	g B 5			PF
SAMP	LE SYME	BOLS	[		MPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIV.  STURBED OR BAG SAMPLE WATE			

		<b> </b> >-	14		BORING B 5			
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	ELEV. (MSL.) 264 DATE COMPLETED 7/8/02 EQUIPMENT 8" HOLLOW STEM AUGER	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION	<u> </u>		Ö
- 30 -		 	H		MATERIAL DESCRIPTION			
32 -						_		
34 -				SM				
36 -	B5-5					18	OCH AND	
38 -							THE PROPERTY OF THE PROPERTY O	
40 -					Very dense, very moist, reddish-brown, very Clayey		1	
42 -				SC	medium SAND; massive		And the second s	
- 44 -	DS C						TOTAL BETTER A DATE OF THE PARTY OF THE PART	
- 46 -	B5-6					52	and the same of th	
		7.			BORING TERMINATED AT 46.5 FEET			
			Marie de la company					
							Tender organistic discourse segments	
				-				
Figure	e A-9, I	og (	of ]	Borin	g B 5			PF
					MPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIV	F SAMPLE	(IIND I STII	
SAMP	LE SYMB	OLS			STURBED OR BAG SAMPLE WATE			

PROJECT NO. 06931-42-01									
DBPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING SB 6           ELEV. (MSL.) 270'         DATE COMPLETED 02-22-2006           EQUIPMENT CME 75         BY: G. C.	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)	
					MATERIAL DESCRIPTION				
- 0 -		1 1.1.	$\vdash$	SM-ML	ALLUVIUM				
-	SB6-1	<b> </b>		SW WE	Loose, moist, dark gray brown, very Silty, fine SAND; porous, roots	L			
- 2 -	300-1					L			
L .	]								
	1 🖁								
F 4 -	1 ľ					<b>L</b>			
F -	SB6-2			SP	Medium dense, damp, medium gray brown, medium to coarse SAND;	17		[	
- 6 -	J J J J				laminated, lenticular river sediment; mostly granitic composition origin	17			
L.	] ]								
8 -						<b> </b>			
<b>†</b> -	1					<b>-</b>			
- 10 -	SB6-3					L			
	300-3					20	87.5	4.9	
- 12 -									
12						<u> </u>			
Γ -	1					<b>F</b>			
- 14 -	1 1					-			
-	SB6-4				Voru coores con dilenses	L			
- 16 -	3D0-4				-Very coarse sand lenses	20			
L.	]			ľ					
40			v		-Becomes fine to medium (more mica)				
- 18 -	1		- <u>X</u> -			<b> </b>			
F -	1					F			
- 20 -	SB6-5					L			
<b>-</b>	550-5					16			
- 22 -	•								
				l		ΓΙ			
Γ	] [			l		t			
- 24 -	1 1					F			
F -	<b>[</b> ]					<b> </b>			
- 26 -				ŀ	-Becomes more dense, medium coarse-grained	<u> </u>			
<u> </u>				į					
-				ŀ				l	
- 28 -	] ]					<b> </b>		•	
F -						┝╶│			

Figure A-1, Log of Boring SB 6, Page 1 of 2

SAMPLE SYMBOLS	SAMPLING UNSUCCESSFUL	STANDARD PENETRATION TEST	DRIVE SAMPLE (UNDISTURBED)
CANN EL CANDOLO	DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	₩ WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

THOOLOT	PROJECT NO. 06931-42-01											
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING SB 6           ELEV. (MSL.) 270'         DATE COMPLETED 02-22-2006           EQUIPMENT CME 75         BY: G. C.	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)				
	:		П		MATERIAL DESCRIPTION							
- 30 -			Ш		MATERIAL DESCRIPTION							
	SB6-6			SP		30						
F -	1 1				-Same	-						
- 32 -	l [	1	1		-Same							
32	1 1		ll			<b> </b>						
<b>-</b>						L						
	1 1		ll									
- 34 -	1 1	1.	1 1			- 1						
L _	] ]		H									
	1 1					<b> </b>						
- 36 -	- I					L						
1			1									
<b>†</b> -	1					-						
- 38 -	]											
""	1 1		ll									
<u> </u>	1					L						
40												
- 40 -	SB6-7					28						
<b>-</b>						L 20						
		4										
- 42 -	1					F						
L _	]											
						r 1						
- 44 -	1					L						
			ll									
	1					<b>-</b>						
- 46 -						L						
<b>-</b>						<b>-</b>						
- 48 -												
F -			ll			┝						
L FO	j j											
- 50 -	SB6-8					16		l				
F -						L . I		I				
		<b> </b>	$\vdash \vdash$		BORING TERMINATED AT 51.5 FEET							
					Groundwater encountered at 18 feet							
				I	Backfilled with bentonite grout							
				l	Dackinica with behiconte grout							
				l								
				1								
								l				
				İ				İ				
							1					

Figure A-1, Log of Boring SB 6, Page 2 of 2

SAMPLE (LINDISTI	IRRED)	l	

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL

... STANDARD PENETRATION TEST

... DRIVE SAMPLE (UNDISTURBED)

... CHUNK SAMPLE

... CHUNK SAMPLE

... WATER TABLE OR SEEPAGE

PROJEC	1 NO. 0093	31-42-01						
DEPTH IN FEET	SAMPLE NO.	ПТНОГОСУ	GROUNDWATER	SOIL CLASS (USCS)	BORING SB 7           ELEV. (MSL.) 263'         DATE COMPLETED 02-22-2006           EQUIPMENT CME 75         BY: G. C.	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
- 0 -		11/2	П	ML-CL	FILL			
Ι.	SB7-1				Medium dense, moist, dark reddish brown, Clayey, Sandy SILT	-		
- 2 -	1 ₿		1			-		
F .	-		[			-		
- 4 -	4	177	$\square$	МН-СН	ALLUVIUM		·	
<b>.</b>	<b>↓</b>			MH-CH	Loose to stiff, wet, dark gray brown, very Clayey SILT to Silty CLAY;	_		
<b>L</b> 6 -	4	1711			micaceous, plastic			
L.	1 L							
8 -	SB7-2	711	}			12	90.0	30.8
	SB7-2A		V		-May be perched seepage	<b> </b>		
	1 6		÷		-iviay be percified seepage			
- 10 -	SB7-3					F 8		
<b>-</b>	-					-		
- 12 -	1					F		
├ .	-					<b> </b>		
- 14 -	-							
<u> </u>		MX						
- 16 -	SB7-4					7		
L .								
40			<b>!</b>					
- 18 -								
<u> </u>	1					<b>†</b>		
- 20 -	1 1					F 1		
-	1	1781				F 1		
- 22 -	1		Ţ		-Becomes more dense	<b> </b>		
<b>-</b>	-	17/11			becomes more defise	<b> </b>		
- 24 -	4 []	KKA	$\mid \mid$			<u> </u>		
L -	] [,							
- 26 -	SB7-5					11		
L		KKN				Γ I		
- 28 -	]							
-	1		-	SM-ML		<b>+</b>		
Cio::::						<u> </u>		

Figure A-2, Log of Boring SB 7, Page 1 of 2

SAMPLE SYMBOLS	SAMPLING UNSUCCESSFUL	STANDARD PENETRATION TEST	DRVE SAMPLE (UNDISTURBED)
SAMI EL STIMBOLS	DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	▼ WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Figure A-2,

Log of Boring SB 7, Page 2 of 2

DEPTH IN PEET	SAMPLE NO.	ПТНОГОСУ	GROUNDWATER	SOIL CLASS (USCS)	BORING SB 7           ELEV. (MSL.) 263'         DATE COMPLETED 02-22-2006           EQUIPMENT CME 75         BY: G. C.	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 30 -					MATERIAL DESCRIPTION			
_ ~_	SB7-6			SM-ML	Loose to medium dense, saturated, medium brown, very Silty, fine SAND with trace clay	10		
- 32 -						_		
_						L		
- 34 -		<b> </b>				-		
_						-		
- 36 -						-		
						-		
- 38 - -						-		
- 40 - - 42 - - 44 - 46 - 	SB7-7			SC-CL	TERRACE DEPOSIT  Medium dense, very moist, medium reddish brown, very Clayey, fine SAND to Sandy CLAY	- 30 - - - - -		
- 48 -			$\vdash$ $\dashv$	SM-ML	Dense, very moist, medium brown, very Silty, fine-grained SAND			
- 50 - - 50 -	SB7-8					_ 		
					BORING TERMINATED AT 51.5 FEET Groundwater encountered at 9 and 22 feet Backfilled with bentonite grout			

NOTE THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

1 1 1	JUECT	110. 0000	31-42-01						
	DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING SB 8           ELEV. (MSL.) 281'         DATE COMPLETED 02-22-2006           EQUIPMENT CME 75         BY: G. C.	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
				П		MATERIAL DESCRIPTION			
H	0 -		1 1.1.	Н	SM	ALLUVIUM			
$\vdash$	_		[::1:		SIVI	Loose, damp, medium dark brown, very Silty, fine to medium-grained	L I		
	2					SAND; micaceous			
Γ	2 -	SB8-1					<b> </b>		
F	-		:-				-		
L	4	l 🏻					L		
1									
T		SB8-2					10	112.5	5.5
F	6 -		-  -  -  -  -  -  -  -  -  -  -  -  -			-Becomes moist	L	112.0	
L									
ı							Γ		
r	8 -		<u>-</u> -				F 1		
F	_		11.11				L		
L	10 -								
	ן יי	SB8-3					7		
H	-						-		
L	12 -		<b> </b>						
Г						-Saturated			
F	14 -						<b>-</b>		
L	***			$ \mathbf{v} $					
		SB8-4		-			10		
r	16 -						8		
F	-						L		
L	18 -		-						
	٠٠ ]						Γ Ι	İ	
r	H			ll			l-		
F	20 -	CDO 5					L		
L		SB8-5					16		
Ī	7						ΓΙ		
<b>h</b>	22 -						F 1		
F	4						L 1		
L	24 -		1.1.1.						
	-4 7		[].]].				r		
H	4						F		
<b> </b>	26			$\sqcup$					
					SM	TERRACE DEPOSIT			
Γ	1					Dense, wet, medium reddish brown to brown, Silty, medium-grained SAND with some fine gravel			
<b> </b> -	28 -					with some thic graver	├		
L	_							l	
								- 1	
				_					

Figure A-3, Log of Boring SB 8, Page 1 of 2

SAMPLE SYMBOLS	SAMPLING UNSUCCESSPUL	STANDARD PENETRATION TEST	DRIVE SAMPLE (UNDISTURBED)		
	DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	▼ WATER TABLE OR SEEPAGE		

DEPTH IN	SAMPLE	LITHOLOGY	GROUNDWATER	SOIL CLASS	BORING SB 8	PENETRATION RESISTANCE (BLOWS/FT.)	ENSITY .F.)	rure NT (%)
FEET	NO.	H	ROUND	(USCS)	ELEV. (MSL.) 281' DATE COMPLETED 02-22-2006  EQUIPMENT CME 75  BY: G. C.	PENETR RESIST (BLOW	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
			၅					
- 30 -	CD9 (	1 1 -1	Ц	CD.	MATERIAL DESCRIPTION			
ļ -	SB8-6			SM		65	121.5	15.8
- 32 -						L		
ļ .						_		
- 34 -		11.1						
	] ]	1.11						
- 36 -			-			<b>L</b>		
-				SC	Dense, wet to saturated, reddish brown, Clayey, fine to medium-grained SAND with some silt	L		
- 38 -						L		
	CD0.7		<b>}</b>			_		
- 40 -	SB8-7					62		
		1//				L		
- 42 -			]		-Becomes very gravelly 41 to 49 feet	_		
┡ -		12/				_		
- 44 -						_		
-		11/						
- 46 -						_		
ļ						L		
- 48 -			H			L		
			$\  \ \ $		-Dense, very moist, medium reddish brown, clayey, fine sand with some	_		
- 50 -	GD0 0				silt, little gravel	<u> </u>		
-	SB8-8					60		
			H		BORING TERMINATED AT 51.5 FEET			
					Groundwater encountered at 15 feet Backfilled with bentonite grout			
					mill better growth			

Figure A-3, Log of Boring SB 8, Page 2 of 2

06931-42-01.GPJ

SAMPLE SYMBOLS	SAMPLING UNSUCCESSFUL	STANDARD PENETRATION TEST	DRIVE SAMPLE (UNDISTURBED)		
	DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	₩ WATER TABLE OR SEEPAGE		

PROJECT NO. 06931-42-01								
DEPTH IN FEET	SAMPLE NO.	ПТНОГОСУ	GROUNDWATER	SOIL CLASS (USCS)	BORING SB 9           ELEV. (MSL.) 311'         DATE COMPLETED 02-23-2006           EQUIPMENT CME 75         BY: G. C.	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
			П		MATERIAL DESCRIPTION			
- 30 -		7.1.1	H	0.0	WATERIAL DESCRIPTION			
		11/	ll	SC				
Γ	1 1	1//	1			F		
- 32 -		1.7.7	1			L.		
		1/1/	łΙ					
Γ	1	1777	1			<b>–</b>		
- 34 -	1	1//				L		
	l 1	++	<del> ▼</del>		BONSALL TONALITE			
Γ	SB9-7	+ +	<b>↓  </b>		Weathered, moist, light to medium brown (mottled), strong GRANITIC	65		
- 36 -		+ +			ROCK	L		
		F + -	łΙ					
	1	++			-Excavates as a clayey sand	<b>F</b>		
- 38 -	1 1	<b> </b>	t I		······································	L		
		+ +			-Less weathered, becoming very strong			
Γ -	1 1	+ +	ΙI		-Less weathered, becoming very strong	<b> </b>		
- 40 -	SB9-8	<u> </u>	Ш			50/2"		
					REFUSAL AT 40.1 FEET			
					Groundwater encountered at 34.5 feet			
					Backfilled with bentonite grout			
	1		ll					
1								
	ŀ		H					
ŀ								
				l				
	1							
				I				
				I				
				ļ				- 1
						1		

Figure A-4, Log of Boring SB 9, Page 2 of 2

SAMPLE SYMBOLS	SAMPLING UNSUCCESSFUL	STANDARD PENETRATION TEST	DRME SAMPLE (UNDISTURBED)
	DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	WATER TABLE OR SEEPAGE

PROJECT	140. 0090	31-42-01	l -					
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING SB 9           ELEV. (MSL.) 311'         DATE COMPLETED 02-23-2006           EQUIPMENT CME 75         BY: G. C.	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
- 0 -	1	1 1 -1	$\vdash$					
L -	] [			SM	ALLUVIUM  Loose to medium dense, dry, medium reddish brown, Silty, fine to			
	SB9-1				medium-grained SAND with some clay	Γ		
- 2 -	1 8					<b>†</b>		
<b>-</b>	1 8					<b>-</b>		
- 4 -			<b> </b>			-		
L _	l L							
	SB9-2	14:14				24		
- 6 -					-Little clay			
<b>-</b>	1					F		
- 8 -	1					L I		
L _				:				
10	ŀ							
- 10 -	SB9-3					16		
<b>-</b>						<b>-</b>		
- 12 -	SB9-3A		1 1			<b> </b>		
	3D9-3A							
- 14 -	<b>l</b> ₿				-Becomes dense, some fine gravel			
14		11/	П	SC	TERRACE DEPOSIT			
<b>-</b>	SB9-4		1		Dense, moist, medium to dark reddish brown, Clayey, medium to coarse-grained SAND; massive	40		
- 16 -			1 1		Coarse-granica SAND, massive	_		
<b>-</b>			1			<b>L</b>		
- 18 -		11/	<b>†</b>					
,,,			ł I					
		///				<b> </b>		
- 20 -	SB9-5	1/				45		
-		757	}			F "		
- 22 -		1//	ŀ					
L								
		1//						
- 24 -		12				F 1		
<b>-</b>	SB9-6	(//				L 15		
- 26 -	5,57=0	1//				45		
		1//						
		1//				Γ Ι		
- 28 -		///				<b> </b>		
<b>-</b>		1/1/				-		
		1.1.1	Ш	l				

Figure A-4, Log of Boring SB 9, Page 1 of 2

SAMPLE SYMBOLS	SAMPLING UNSUCCESSPUL	STANDARD PENETRATION TEST	DRIVE SAMPLE (UNDISTURBED)
SAMIFEL STINDOES	DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	▼ WATER TABLE OR SEEPAGE

NOTE THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJEC	I NO. 0693	31-42-01	!					
DEPTH IN PEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING SB 10         ELEV. (MSL.) 320'       DATE COMPLETED 02-23-2006         EQUIPMENT CME 75       BY: G. C.	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
- 0 -	<del>                                       </del>	1 1 -	$\vdash$	63.6	ALLUVIUM			
L.	]			SM	Loose, damp, dark brown, Silty, fine SAND; topsoil			
					Loose, damp, dark brown, Smy, fine SAND, topson	Г I		
<b>-</b> 2 -	1	1-1-1-		SM	Medium dense, damp, dark to medium brown, Silty, fine to			
L .	1		H	5111	medium-grained SAND with some clay	L		
					g			
- 4 -	1 1	1-1 -1				<b>-</b>		
	SB10-1					L		
- 6 -	3D10-1	7.17				35		
ľ						Γ Ι		
<b>-</b>	1 1					- I		
<b>-</b> 8 -	1		LJ			L l		
		1//		SC-CL	Medium dense, moist, dark to medium brown, very Clayey, fine to medium			
<b>–</b>	1 1	1//			SAND with some silt	-		
- 10 -	SB10-2	1.57						
L .	SB10-2	197	ŀ			25		
		1//	[			<b>i</b>		
- 12 -	1 1	1.1.7				<b>-</b>		
<b>-</b>	1 1							
1		//		CL	TERRACE DEPOSIT			
- 14 -	1 1				Very stiff, very moist, medium reddish brown, very Sandy CLAY	-		
<b>-</b>	SB10-3					L		
- 16 -	3D10-3					27		
10		Y:/.,						
<b>-</b>	1					-		
- 18 -	4 1	/ /				_		
L		+ +	$\vdash \vdash$		BONSALL TONALITE GNEISS	<b></b>		
ſ		<u> </u>	ŀl		Very weathered and foliated, very moist, light to medium olive brown	<u> </u>		
- 20 -	SB10-4	┨╫ <sub>.</sub> +│	ll		(mottled), moderately strong GRANITIC GNEISS	- <sub>75</sub>		
<b>-</b>		[_++_	l l			75		
		<u> </u>	. I					
- 22 -	1	+ +				<del> </del>		
<b>-</b>	1	├ <sub>.</sub> +	ŀl		Dagger on other -	<u> </u>		
- 24 -	]	+			-Becomes strong			
24	CD10.	   + +	Ì			- I		
<b>†</b> -	SB10-5	<u>'</u>	$\vdash \vdash$		REFUSAL AT 25.1 FEET	_ 50/2"		
					Groundwater not encountered			
					Backfilled with bentonite grout			
1	1 1							l
L							1	

Figure A-5, Log of Boring SB 10, Page 1 of 1

SAMPLE SYMBOLS	SAMPLING UNSUCCESSPUL	STANDARD PENETRATION TEST	DRIVE SAMPLE (UNDISTURBED)
0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	▼ WATER TABLE OR SEEPAGE

PROJEC	T NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 1           ELEV. (MSL.)         265         DATE COMPLETED         7/1/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FI.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 0 -					MATERIAL DESCRIPTION			
- 2 - - 2 - - 4 -				SM	ALLUVIUM Loose, dry to humid, dark brown, Silty, fine to medium SAND; very porous, with burrows, root-voids	-		
- 6 - - 8 - - 10 - - 12 -	T1-1 T1-2			SM	Loose to medium dense, medium to dark brown, Silty, fine to medium SAND; less porosity, with pinhole voids			
- 14 - - 16 -	T1-3		¥	SM	-Groundwater seepage Loose, saturated, medium to dark brown, slightly Silty, fine to medium SAND; caving, low cohesion			
	A 10	Log	64	Two	TRENCH TERMINATED AT 16 FEET (CAVING)  ch T 1			
. igur e	- A-10,	Lug		<del></del>				PF
SAMP	LE SYME	BOLS	L	] sai	MPLING UNSUCCESSFUL $\ \square \ldots$ STANDARD PENETRATION TEST $\ \square \ldots$ DRIV	E SAMPLE	(UND I STU	RBED)

▼ ... WATER TABLE OR SEEPAGE

oximes ... DISTURBED OR BAG SAMPLE  $oxdim \ldots$  CHUNK SAMPLE

	l .	1	2		TENTAL CITY OF A			
DEPTH IN	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS	TRENCH T 2  ELEV. (MSL.) 265 DATE COMPLETED 7/1/02	RATION STANCE S/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
FEET		5	GROL	(USCS)	EQUIPMENT 310 BACKHOE, 24"	PENETRA RESIST (BLOWS/	RY D (P.0	MOIS
					MATERIAL DESCRIPTION	<u> </u>	<u> </u>	
- 2 -				SM	ALLUVIUM Loose, dry to humid, dark brown, Silty, fine to medium SAND; porous, with burrows, root-voids	_		
- 4 -								
- 6 - - 8 -					Loose, damp to moist, medium to dark brown, slightly Silty, medium to coarse SAND; less porous, with pinhole voids			
- 10 -				SM				
- 12 - 						_		
- 14 -	T2-1			SP	Loose to medium dense, very moist, medium brown-gray, medium to very coarse SAND, with "pea gravel", low cohesion, caving	_		
- 16 -					TRENCH TERMINATED AT 16 FEET			
Figure	e <b>A-11</b> ,	Log	0	f Trer	nch T 2			PF
SAMP	PLE SYME	BOLS			MPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIV STURBED OR BAG SAMPLE CHUNK SAMPLE WATE			

PROJEC	T NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 3           ELEV. (MSL.)         262         DATE COMPLETED         7/1/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 0 -					MATERIAL DESCRIPTION			
2 -				SM	UNDOCUMENTED FILL  Loose, humid to damp, medium reddish-brown, Silty fine SAND			
- 4 -					ALLUVIUM Loose, damp to moist, medium to dark gray-brown, Sandy SILT; abundant laminated mica			
- 6 -	T3-1			ML		_	87.2	23.0
-	T3-2					-		
- 8 - 								
- 10 -								
-						_		
- 12 -						_		
				,		_		
- 14 -	T3-3		¥	CL-MH	Soft, saturated, dark olive-gray, very Silty CLAY to Clayey SILT; moderately plastic, caving			
- 16 <del>-</del>		V1. 2. V			TRENCH TERMINATED AT 16 FEET (CAVING)			
			of the second se	9.00				

Figure A-12, Log of Trench T 3

SAMPLE SYMBOLS

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PROJEC	T NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDMATER	SOIL CLASS (USCS)	TRENCH T 4           ELEV. (MSL.)         280         DATE COMPLETED         7/1/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOMS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- o -					MATERIAL DESCRIPTION			
- 2 - - 2 - - 4 -				SM	ALLUVIUM  Loose to medium dense, dry to humid, medium dark brown, Silty, fine to medium SAND; porous, with burrows, pinhole voids	_		
- 6 - - 8 - - 10 -	T4-1			SC	TERRACE DEPOSIT  Medium dense, moist, medium reddish-brown, Clayey, fine to medium SAND; less porous	_		
- 12 - 	T4-2		<b>\</b>	SM	-Groundwater at 12 feet  Loose to medium dense, wet to saturated, slightly  Silty, medium to coarse SAND	-		
					TRENCH TERMINATED AT 15 FEET			
Figure	e A-13,	, Log	5 0	f Trer	nch T 4			PF
SAMP	LE SYMI	BOLS			MPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRI STURBED OR BAG SAMPLE WAT	VE SAMPLE ER TABLE C		

▼ ... WATER TABLE OR SEEPAGE

DEPT IN FEET	SAMPLE	LITHOLOGY	GROUNDMATE	SOIL CLASS (USCS)	ELEV. (MSL.) 300 DATE COMPLETED 7/1/02 EQUIPMENT 310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)			
- 0					MATERIAL DESCRIPTION						
_ 2					TERRACE DEPOSIT  Medium dense, dry to humid, medium to dark brown, Silty, fine to medium SAND  becomes humid to damp, moderately porous						
- 4				SM							
- 6 - 8	-										
- 10					-Light tan, clean sand layers, roots, burrows						
- 12 - 14	T5-1			SM	Medium dense, damp to moist, medium reddish-brown, very Silty fine SAND; less porous, pinhole voids	_	101.2	12.1			
		,			TRENCH TERMINATED AT 15 FEET						
Figu	re A-14,	Log	01	Tren	ch T 5			PF			
SAN	SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS										

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	}5	15		TRENCH T 6	<u> </u>			
	DEPTH SAMPLE	LITHOLOGY	GROUNDWATER	SOIL		TION	SITY	<u>₩</u>
IN FEET	NO	불	OUNC	CLASS (USCS)	ELEV. (MSL.) <u>300</u> DATE COMPLETED <u>7/1/02</u>	TISTA DISTA	DENSI	MOISTURE CONTENT (%)
			GR		EQUIPMENT 310 BACKHOE, 24"	PENETRI RESIST (BLOWS,	DRY (P.	CONT
- 0					MATERIAL DESCRIPTION			
	_			SC	TERRACE DEPOSIT  Medium dense, humid, dark brown, Clayey, fine to medium SAND	_		
- 4	T6-1		-		Medium dense, damp, light to medium reddish-brown, Silty, medium to coarse SAND, with some clay		115.4	7.0
- 6	T6-2			SM				
- 8 - 10	-			SC	Medium dense, damp to moist, medium to dark reddish-brown, Clayey, fine to medium SAND	-		
					TRENCH TERMINATED AT 10.5 FEET			
Figu	re A-15,	Log	<b>O</b>	Tren	nch T 6			PF
SAN	MPLE SYME	BOLS			MPLING UNSUCCESSFUL □ STANDARD PENETRATION TEST ■ DI STURBED OR BAG SAMPLE ■ CHUNK SAMPLE ▼ W	RIVE SAMPLE		

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATE	SOIL CLASS (USCS)	ELEV. (MSL.) 293 DATE COMPLETED 7/1/02 EQUIPMENT 310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
F 0					MATERIAL DESCRIPTION			
- 2	-			SM	ALLUVIUM Loose, damp to moist, dark brown, Silty, fine to medium SAND, very porous, with roots, burrows			
- 6 - 8						-		
					TRENCH TERMINATED AT 8 FEET			
Figur	e A-16,	Log	of	Tren	ch T 7			PF
SAMI	PLE SYMB	OLS			PLING UNSUCCESSFUL			i

06931-42-01

		>	FE IER		TRENCH T 8				
DEPTH		907	HH	SOIL		J. S. F.	ŢĬ.	₩ <sup>3</sup>	
IN	SAMPLE NO.	LITHOLOGY		CLASS	ELEV. (MSL.) 327 DATE COMPLETED 7/1/02	STA IS/F	C.F	STU	
FEET		ַנו	GROUNDWATER	(USCS)	EQUIPMENT 310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSIT (P.C.F.)	MOISTURE CONTENT (%	
					MATERIAL DESCRIPTION				
- 0 -		1.1.1			ATTINUM				
2 -					ALLUVIUM Loose, damp, dark brown, Silty, fine to medium SAND; very porous, with roots, burrows				
- 4 -									
-						-			
- 6 -						-			
-				SM		<b>-</b>			
- 8 -						-		:	
_									
- 10 -									
12									
- 14 -					-Becomes very moist to wet				
-					becomes very moist to mot	_			
		•			TRENCH TERMINATED AT 15.5 FEET				
Figure	e A-17,	Log			nch T 8			PF	
SAMP	LE SYME	BOLS			MPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIV STURBED OR BAG SAMPLE WATE			1	
L									

06931-42-01

PROJEC	T NO.	06931	-42	-01		_					
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 9           ELEV. (MSL.) 382 DATE COMPLETED 7/1/02           EQUIPMENT 310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)			
					MATERIAL DESCRIPTION						
- 0 - - 2 - - 4 -	T9-1	+ + + + + + + + + + +		SC	TOPSOIL Loose, dry to humid, dark red-brown, Clayey fine SAND; porous, with roots  SAN MARCOS GABBRO Very weathered, humid to damp, medium olive brown, moderately strong GABBRO -Excavates to a silty, medium to very coarse sand, with trace of clay						
- 6 -		- +  + +		***************************************	TRENCH TERMINATED AT 6 FEET						
Figure	Λ-19	Log		Tuon	ah T. 0						
Figure	e A-18,	Log	of	f Tren	ch T 9			PF			
SAMP	LE SYME	Figure A-18, Log of Trench T 9  SAMPLE SYMBOLS  □ SAMPLING UNSUCCESSFUL □ STANDARD PENETRATION TEST ■ DRIVE SAMPLE (UNDISTURBED)									

Y ... WATER TABLE OR SEEPAGE

◯ ... DISTURBED OR BAG SAMPLE

PROJEC	T NO.	06931	-42-	-01				_		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T  ELEV. (MSL.)  EQUIPMENT			PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					M	IATERIAL DESCRIPTION				
- 0 - - 2 - - 4 - - 6 - - 8 -				GM	UNDOCUM Loose, dry to SAND, coars chunks of commatrix	ENTED FILL b humid, light gray-brown (mottle se RUBBLE; very porous, with 3 nerete, with voids, some silty sar	ed) 4' nd	-		
- 10 -		7-1 4			TREN	CH TERMINATED AT 10 FEE (Refusal on oversize concrete)	T			

Figure A-19, Log of Trench T 10

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PROJEC	T NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDMATER	SOIL CLASS (USCS)	TRENCH T 11         Image: Complete of the com	PENEIRALION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 0 - - 2 - - 4 - - 6 - - 8 -					UNDOCUMENTED FILL  Loose, dry to humid, light gray-brown (mottled), Clayey/Sandy coarse RUBBLE; very porous, with 6"-24" chunks of concrete, with voids, some clayey sand, matrix and cobble			
					TRENCH TERMINATED AT 9 FEET (Refusal on oversize concrete)			
Figur	e A-20	, Lo	go	of Tre	nch T 11			PF
SAMI	PLE SYM	BOLS			AMPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIVE			

DEPTH IN	SAMPLE NO.	LITHOLOGY	GROUNDMATE	SOIL	TRENCH         T 12           ELEV. (MSL.)         425         DATE COMPLETED         7/2/02	RATION STANCE US/FT.)	DENSITY C.F.)	STURE ENT (%)
FEET		ב	GRO	(USCS)	EQUIPMENT 310 BACKHOE, 24"	PENET RESI (BLO)	ORY (P.	MOIST
- 0 -					MATERIAL DESCRIPTION			
- 2 -				SM	TOPSOIL Loose, moist, dark brown, Silty, fine to medium SAND; porous, with roots			
- 4 -	T12-1 T12-2		•	SM	TERRACE DEPOSIT  Dense, moist, dark reddish brown-brown, Silty, medium to coarse SANDSTONE			
- 6 - 		+ +   + +   + +			SAN MARCOS GABBRO Weathered, moist, dark brown-olive, moderately strong GABBRO; excavates to a silty, medium to coarse sand, with 6"-12" wide granitic dikes	<u></u>		
					TRENCH TERMINATED AT 7 FEET			
Figure	0.4.21	Loc		f Tuo	nch T 12			
			5 U			TVE SAMDIE	(LIND I ST	PF IRRED)
SAMI	SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS  SAMPLE SYMBOLS							

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PROJEC	T NO.	06931	-42	-01		_		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 13           ELEV. (MSL.)         425         DATE COMPLETED         7/2/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION	<u> </u>		U U
- 0 -		00.00	,		WITTERINE DESCRIPTION			
2 -			2	GM	UNDOCUMENTED FILL Very dense, dry, light gray-brown (mottled) Sandy RUBBLE; porous, but with poured concrete waste or lime-cementation rubble 6"-18" diameter			
T 4		200						
6 -				SM	ALLUVIUM Loose, moist, dark brown, Silty, fine to medium SAND; very porous, with roots	_		
8 -		++			BONSALL TONALITE GNEISS			
					Weathered, moist, light brown-orange, strong GRANITIC ROCK  BORING TERMINATED AT 9 FEET (REFUSAL)			
Figure	e A-22.	Log	; o	f Trer	nch T 13			PF
	PLE SYM			□ sa	MPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIV			

PROJEC	T NO.	06931	-42	-01			ı		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 14           ELEV. (MSL.)         422         DATE COMPLETED           EQUIPMENT         310 BACKHOE, 24"	7/2/02	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 0 -					MATERIAL DESCRIPTION  ALLUVIUM  Loose, moist, dark gray-brown, very Silty fine		_		
- 2 - - 4 - - 6 - - 8 -				SM-ML	SAND; very porous, with pinholes, burrows		-		
- 8 - 10 -		0.00		GM	Medium dense, moist, dark gray brown, Sandy coarse GRAVEL, with some silt				
		+ + - +			SAN MARCOS GABBRO Very weathered, moist, dark olive to brown, moderate to strong GABBRO -Excavates to a medium to coarse sand TRENCH TERMINATED AT 11 FEET				
Figure	÷ A-23,	, Log	5 0	f Tren	nch T 14				PF
SAMP	LE SYMI	BOLS		□ sa	MPLING UNSUCCESSFUL STANDARD PENETRATION TEST	DRIV	E SAMPLE	(UND I STL	JRBED)

Y ... WATER TABLE OR SEEPAGE

◯ ... DISTURBED OR BAG SAMPLE

			œ		TRENCH T 15			
		067	ATE		IRENCH 1 15	집법(	Ϋ́	URE T (%)
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	ELEV. (MSL.) <u>465</u> DATE COMPLETED <u>7/2/02</u>	PENETRATION RESISTANCE (BLOWS/FT.)	DENSITY.	ISTUR
			GRC		EQUIPMENT 310 BACKHOE, 24"	PENETR/ RESIST (BLOWS/	ORY (P.	MOISTU
					MATERIAL DESCRIPTION			
- 0 -		1.11			A			
- 2 -				SM	ALLUVIUM Loose, damp, dark brown, Gravelly, Silty fine SAND; very porous, with roots	_		
						-		
- 4						-		
<u> </u>		a 1.						
- 6 -		4			-Becomes more gravelly	-		
				SM-GM	-Becomes more graverry	-		
- 8 -		1		CM				
		[ ·		SM	TERRACE DEPOSIT Dense, damp, medium dark olive brown, Silty			
					TRENCH TERMINATED AT 9 FEET			
					TREASENT TERRITARIES IN STEEL			
							TO THE PROPERTY OF THE PROPERT	
								i
	,							
Figur	e A-24,	, Log	g 0	f Trei	nch T 15			PF
SAMI	PLE SYM	BOLS		□ s#	MPLING UNSUCCESSFUL $lacksquare$ Standard penetration test $lacksquare$ Driv	/E SAMPLE	(UND I STL	JRBED)
				⊠ D1	STURBED OR BAG SAMPLE 🔲 CHUNK SAMPLE 🕎 WATE	R TABLE C	R SEEPAG	ìΕ

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PROJEC	T NO.	06931	<u>-42</u>	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 16           ELEV. (MSL.)         512         DATE COMPLETED         7/2/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	ORY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
			$\vdash$		MATERIAL DESCRIPTION	<u> </u>		
2 -				SM	ALLUVIUM Loose, moist, dark gray-brown, Silty, fine to medium SAND; very porous, with roots, pinhole voids	-		
6 -		++			SAN MARCOS GABBRO			
					Very weathered, damp, light to medium olive brown, moderately strong GABBRO; excavates to a silty, medium to coarse sand  TRENCH TERMINATED AT 7 FEET			
Figure	Α Δ-25	Lon		f Tror	nch T 16			
					MPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIV	/E CAMBIE	/UND LOT!	PF
SAMF	PLE SYMI	BOLS			STURBED OR BAG SAMPLE CHUNK SAMPLE WATE			

PROJEC	T NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 17           ELEV. (MSL.)         420         DATE COMPLETED         7/2/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0 -				SM	TOPSOIL Loose, damp, dark brown, Silty fine SAND	_		
_ 2				SM	TERRACE DEPOSIT  Dense, damp, dark gray brown, Silty, medium to coarse SAND; massive		,	
- 6 -		+ + + +			SAN MARCOS GABBRO Weathered, damp, medium to dark olive brown to light brown (mottled) strong GABBRO with narrow dikes of TONALITE;			
					-Excavates to a silty coarse sand  TRENCH TERMINATED AT 7 FEET (REFUSAL)			
Figur	e A-26	, Log	g 0	f Trei	ich T 17			PF
SAMI	PLE SYM	BOLS			MPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIV STURBED OR BAG SAMPLE WATE			

PROJEC	T NO.	06931	-42	01		•		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 18           ELEV. (MSL.)         480         DATE COMPLETED         7/2/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
- 0 -	Т	14/14			MATERIAL DESCRIPTION			
- 0 - - 2 - - 4 - - 6 - - 8 -				SM	ALLUVIUM Loose, damp, dark brown, Clayey/Silty fine SAND; porous, with roots, burrows  -Gabbro boulder 2' diameter -Becomes very moist  TERRACE DEPOSIT Dense, damp, dark brown-olive, Silty, fine to coarse SAND; massive  TRENCH TERMINATED AT 9 FEET			
Figure	ο Δ-27	Loc	T 0	f Trov	nch T 18			
rigure	- H-4/	, LUE					41111-	PF
SAMPLE SYMBOLS SAMPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIVE SAMPLE (UNDISTURBED)								

... CHUNK SAMPLE

Y ... WATER TABLE OR SEEPAGE

 $oximes\ldots$  disturbed or bag sample

PROJEC	T NO.	06931	-42	-01				
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDMATER	SOIL CLASS (USCS)	TRENCH T 19           ELEV. (MSL.)         430         DATE COMPLETED         7/2/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
- 0 -  - 2 -				SM	UNDOCUMENTED FILL Medium dense, damp, dark to medium brown (mottled) Silty, rubbly SAND	_		
- 4 - 6 -					ALLUVIUM Loose, moist, dark brown, Silty fine SAND; very porous, with pinhole voids, burrows	-		
- 8 -				SM				
- 10 - - 1 -				SM SM	TERRACE DEPOSIT  Dense, damp, medium reddish-brown, Silty, fine to medium SAND; massive			
- 12 -		<del> </del> -1			-Becomes very dense, coarse, with pea gravel			
					TRENCH TERMINATED AT 12 FEET			

Figure A-28, Log of Trench T 19

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		}.	TER		TRENCH T 20	<u> </u>	>-	0
DEPTH IN	SAMPLE	LITHOLOGY	GROUNDWATER	SOIL CLASS		PSET	KSIT F.)	URE T (%)
FEET	NO.	H	S	(USCS)	ELEV. (MSL.) 485 DATE COMPLETED 7/2/02	PENETRA RESISTA (BLOWS/	.C.	MOISTL
			G		EQUIPMENT 310 BACKHOE, 24"	PER PER	DRY (P.	EOS
- 0 -					MATERIAL DESCRIPTION			
- 2 -					TERRACE DEPOSIT  Loose to medium dense, damp, dark brown, Silty fine SAND; minor pinhole pores			
- 4 -					-Fine angular gravel layers			
6 -	T20-1 T20-2			SM		_		
8 -						<b>—</b>		
10 -					-Becomes moist to very moist	-		
12 -				SM	Dense, damp, light to medium reddish-brown, Silty medium SAND; massive, with some fine			
					pea-gravel TRENCH TERMINATED AT 13 FEET			
Figur	ρ Δ-20	Loc	T 0	f Tro	ach T 20			
	Figure A-29, Log of Trench T 20  SAMPLE SYMPOLS.  SAMPLING UNSUCCESSFUL STANDARD PENETRATION TEST DRIVE SAMPLE (UNDISTURBED)							
SAMI	PLE SYMI	BOLS			STURBED OR BAG SAMPLE CHUNK SAMPLE WATE			

06931-42-01

PROJEC	T NO.	06931	-42	-01		-		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 21           ELEV. (MSL.)         500         DATE COMPLETED         7/2/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
- 0 -		4 1		SM	TOPSOIL Loose, damp, dark brown, Silty fine, Gravelly SAND; porous, roots			
- 4 -		+ + +     + +     + +     + +     + +     + +	1		SAN MARCOS GABBRO Very weathered, damp, medium gray-brown, moderately strong GABBRO; with thin tonalite dikes 6"-12" wide, with steep-vertical dips			
					TRENCH TERMINATED AT 7 FEET			
Figure	A-30	Ling	r n	f Tret	nch T 21			
~ 1841	J 11 50;	, 108					411118	PF
SAME	DIE SVM	POI S		⊔SA	IMPLING UNSUCCESSFUL $\ \square \ldots$ STANDARD PENETRATION TEST $\ \blacksquare \ldots$ DRIV	/E SAMPLE	(UND I STU	JRBED)

... CHUNK SAMPLE

◯ ... DISTURBED OR BAG SAMPLE

▼ ... WATER TABLE OR SEEPAGE

PROJEC	T NO.	06931	-42	-01		ו		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TRENCH T 22           ELEV. (MSL.)         466         DATE COMPLETED         7/2/02           EQUIPMENT         310 BACKHOE, 24"	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION		***************************************	
- 0 - 2 - 		0 0		GM	TERRACE DEPOSIT  Dense to very dense, damp to moist, medium reddish-brown, Sandy coarse GRAVEL; massive, with subangular gabbro clasts 2"-18" diameter			
					-Becomes cemented durapan  TRENCH TERMINATED AT 3.5 FEET  (REFUSAL)			
					,			

Figure A-31, Log of Trench T 22

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